

1. A method of specifying the design of a welding gun having multiple
2 dimensional parameters, the method comprising the steps of:
providing a visual representation of the type of welding gun to be designed;
4 providing a plurality of menus with user selectable options, one of the menus
corresponding to each of the multiple dimensional specifications;
6 offering options in each of the menus that are available for the welding gun to be
designed and not offering options that are not available;
8 receiving a signal from a user indicating the user's selection of an option from one
of the menus;
10 determining if the option selected from the menu results in the availability or non-
availability of options in any of the other menus;
12 adjusting the options available in each of the menus to offer options that are
available based on the option selected in the one menu and to not offer options that are
14 not available based on the option selected in the one menu; and
calculating performance parameters for the welding gun based on the options
16 chosen from each of the menus.

2. The method of claim 1 wherein the visual representation includes
2 dimensional indicators.

3. The method of claim 1 further comprising the steps of:
2 receiving a second signal indicating a user's selection of an option in a second one

of the plurality of menus;

- 4 determining if the option selected in the second one of the menus results in the
availability or non availability of options in any of the other menus;
- 6 adjusting the options available in each of the menus to offer options that are
available based on the option selected in the second one menu and to not offer options
- 8 that are not available based on the option selected in the second one menu; and
calculating performance parameters for the welding gun based on the options
- 10 chosen from each of the menus.

4. The method of claim 1, wherein the determining of the non-availability of
2 options results in displaying non-available options but preventing selection of the non-
available options.

5. The method of claim 1, wherein the determining of the non-availability of
2 options prevents display of non-available options.

6. The method of claim 1 further comprising the step of providing visual
2 representations of available electrodes.

7. The method of claim 1 wherein steps are performed by a computer.

8. A weld gun parameter specification system, comprising:

- 2 a parameter database;
a computer-readable medium containing computer-executable instructions for
4 performing a method of weld gun parameter specification; and
an output component.

9. The system of claim 8 wherein the parameter database includes a
2 parameter name.

10. The system of claim 9 wherein the parameter database includes at least
2 one parameter name selected from the group consisting of: mount type, electrode type,
electrode angle, total point opening, equalization total, tip force, fulcrum-actuator
4 distance, fulcrum-weld cap distance, upper arm-weld cap distance and lower arm-weld
cap distance.

11. The system of claim 9 wherein the parameter database includes a
2 parameter variant associated with the parameter name.

12. The system of claim 8 wherein the computer-executable instructions for
2 performing a method of weld gun parameter specification include directions for
determining a weld gun characteristic value.

13. The system of claim 8 wherein the output component is a printer.

2 14. A computer-based method for specifying a weld gun configuration, the
method comprising:
4 displaying a first design characteristic value associated with a default weld gun
model;
6 presenting a parameter name associated with a default weld gun model;
 showing a parameter variant the parameter variant associated with the parameter
8 name;
 selecting the parameter variant;
10 calculating a new design characteristic value based on the selection of the
parameter variant to produce a second weld gun model; and
12 submitting the second weld gun model to a user as a specification of a weld gun
configuration.

 15. The method of claim 14 wherein the first design characteristic value is
2 selected from the group consisting of: actual tip force, retract stroke, cylinder bore,
transformer, minimum shunt area, gun weight, % phase shift, center of gravity from
4 mount x and center of gravity from mount y.

 16. The method of claim 14 wherein the parameter name is selected from the
2 group consisting of: mount type, electrode type, electrode angle, total point opening,
equalization total, tip force, fulcrum-actuator distance, fulcrum-weld cap distance, upper
4 arm-weld cap distance and lower arm-weld cap distance.

17. The method of claim 14 wherein the step of submitting the second weld
2 gun model to a user includes a display of a part number.

18. The method of claim 14 wherein the step of submitting the second weld
2 gun model to a user includes price information.

19. The method of claim 14 wherein the step of submitting the second weld
2 gun model to a user includes display of a visual representation of a weld gun.

20. The method of claim 17 wherein the step of submitting the second weld
2 gun model to a user further includes a part name.

21. The method of claim 20 wherein the step of submitting the second weld
2 gun model to a user further includes part availability information.

22. The method of claim 20 wherein the step of submitting the second weld
2 gun model to a user further includes part source information.